

Appl. No. 10/052,454
Amendment dated Dec. 21, 2004
Reply to Office Action of Sep. 21, 2004
Docket No. BOC5-2001-0001 (236)

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the instant application:

Listing of Claims:

1. (Original) A method of managing at least one client computer program in a managed application environment comprising:

receiving a request from at least one of a plurality of client computer programs to begin a timer corresponding to an identified task executing within a particular thread of execution of said client computer program, wherein said identified task has been identified as a time-out susceptible task;

starting a timer in another separate thread of execution which corresponds to said request and said time-out susceptible task;

timing said time-out susceptible task; and

if said timer expires, performing a recovery action corresponding to said time-out susceptible task.

2. (Original) The method of claim 1, wherein said timer executes within a process separate from said time-out susceptible task.

3. (Original) The method of claim 1, wherein said recovery action comprises destroying said particular thread of execution.

4. (Currently Amended) The method of claim 1, wherein said recovery action comprises restarting said time-out sensitive susceptible task.

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5. (Currently Amended) The method of claim 1, wherein said time-out ~~sensitive~~ susceptible task is part of a process and said recovery action comprises destroying said process.
6. (Original) The method of claim 5, further comprising:
restarting said process.
7. (Original) The method of claim 1, wherein said recovery action comprises forcing said client computer program to discontinue execution.
8. (Original) The method of claim 1, further comprising:
receiving a request from said client computer program to stop said timer.
9. (Original) A method of managing at least one client computer program in a managed application environment comprising:
identifying a process of a client computer program, wherein said process includes at least one time-out susceptible task executing in a particular thread of execution;
defining named timers corresponding to said time-out susceptible tasks;
receiving a request to enable one of said timers from said client computer program, wherein said request specifies a particular one of said timers corresponding to one of said time-out susceptible tasks which said client computer program has started to execute;
enabling said particular one of said timers;
creating a hash table entry for said particular one of said timers;
timing said time-out susceptible task, wherein said timer executes within a separate thread of execution; and

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if said enabled timer expires, destroying said process in said client computer program.

10. (Original) The method of claim 9, wherein said timer executes in a process separate from said identified process.

11. (Original) The method of claim 9, further comprising:
restarting said process in said client computer program.

12. (Original) The method of claim 9, further comprising:
receiving a request to stop said particular one of said timers from said client computer program.

13. (Currently Amended) A system management agent for managing a plurality of client computer programs comprising:

a plurality of timers, each said timer corresponding to a time-out susceptible task of one of said computer programs executing within a designated thread of execution and having a predetermined maximum allowable time period;

an application programming interface accessible by the plurality of computer programs for receiving requests to enable and disable particular ones of said plurality of timers;

a configuration file associating said plurality of timers with said time-out susceptible tasks, and specifying said maximum allowable time periods, and defining one or more recovery mechanisms for each said time-out susceptible task;

a hash table for tracking enabled timers of said plurality of timers; and

a recovery component for coordinating said plurality of timers, said application programming interface, said configuration file, and said hash table, wherein said recovery

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component initiates one of said recovery mechanisms for time-out susceptible tasks having expired timers.

14. (Original) A machine-readable storage, having stored thereon a computer program having a plurality of code sections executable by a machine for causing the machine to perform the steps of:

receiving a request from at least one of a plurality of client computer programs to begin a timer corresponding to an identified task executing within a particular thread of execution of said client computer program, wherein said identified task has been identified as a time-out susceptible task;

starting a timer in another separate thread of execution which corresponds to said request and said time-out susceptible task;

timing said time-out susceptible task; and

if said timer expires, performing a recovery action corresponding to said time-out susceptible task.

15. (Original) The machine-readable storage of claim 14, wherein said timer executes within process separate from said time-out susceptible task.

16. (Original) The machine-readable storage of claim 14, wherein said recovery action comprises destroying said particular thread of execution.

17. (Original) The machine-readable storage of claim 14, wherein said recovery action comprises restarting said identified task.

18. (Original) The machine-readable storage of claim 14, wherein said task is part of a process and said recovery action comprises destroying said process.

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19. (Original) The machine-readable storage of claim 18, further comprising:
restarting said process.
20. (Original) The machine-readable storage of claim 14, wherein said recovery
action comprises forcing said client computer program to discontinue execution.
21. (Original) The machine-readable storage of claim 14, further comprising:
receiving a request from said client computer program to stop said timer.
22. (Original) A machine-readable storage, having stored thereon a computer
program having a plurality of code sections executable by a machine for causing the
machine to perform the steps of:
- identifying a process of a client computer program, wherein said process includes
at least one time-out susceptible task executing in a particular thread of execution;
 - defining named timers corresponding to said time-out susceptible tasks;
 - receiving a request to enable one of said timers from said client computer
program, wherein said request specifies a particular one of said timers corresponding to
one of said time-out susceptible tasks which said client computer program has started to
execute;
 - enabling said particular one of said timers;
 - creating a hash table entry for said particular one of said timers;
 - timing said time-out susceptible task, wherein said timer executes within a
separate thread of execution; and
 - if said enabled timer expires, destroying said process in said client computer
program.

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23. (Original) The machine-readable storage of claim 22, wherein said timer executes in a process separate from said identified process.

24. (Original) The machine-readable storage of claim 22, further comprising: restarting said process in said client computer program.

25. (Original) The machine-readable storage of claim 22, further comprising: receiving a request to stop said particular one of said timers from said client computer program.